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Penicillin and Immune Serum in the Treatment of Leptospirosis

Clinical Note on the Penicillin Treatment of Leprosy

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Public Health Reports

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A COMPARISON OF THE EFFECT OF PENICILLIN AND IMMUNE SERUM IN THE TREATMENT OF EXPERIMENTAL LEPTOSPIROSIS IN YOUNG WHITE MICE AND IN HAMSTERS¹

By C. L. LARSON, *Passed Assistant Surgeon*, and J. J. GRIFFITTS, *Passed Assistant Surgeon, United States Public Health Service*

The use of penicillin in the treatment of guinea pigs infected with *Leptospira icterohaemorrhagiae* has been demonstrated to be of value when the drug is administered shortly after the infective dose has been given. It is the intention here to present data comparing the value of specific immune serum and penicillin in the treatment of leptospirosis icterohaemorrhagica in 3-week-old albino Swiss mice in which therapy was initiated at varying intervals after infection had been induced, and similarly to report the effect of these drugs on *L. canicola* infections in hamsters.

Heilman and Herrell (1) studied the effect of penicillin on leptospirosis icterohaemorrhagica in guinea pigs and found that the drug produced a marked beneficial effect when treatment was administered from 17 hours to the third day after inoculation with infective material. Larson (2) studied the effect of specific immune serum on the course of this disease in young albino Swiss mice and reported serum to be of value even when administered as long as 4 days after initiation of infection. Infections with *L. canicola* in hamsters (*Cricetus auratus*) are likewise favorably influenced by administration of immune serum (3).

MATERIALS AND METHODS

Three-week-old albino Swiss mice from the colony maintained at the National Institute of Health were used to determine the effect of treatment upon infection with *L. icterohaemorrhagiae*. Hamsters of about 4 weeks of age were employed for testing the effect of drugs upon infections due to *L. canicola*.

¹ From the Division of Infectious Diseases and the Biologics Control Laboratory, National Institute of Health.

Serum (H) from horses immunized with *L. icterohaemorrhagiae* which had an agglutination titre of 1:1,000,000 against this organism was used in some tests and serum (R) from an immunized rabbit having a titre of 1:100,000 against this organism was employed in the remainder of the tests.

The sodium salt of penicillin was used. This was diluted in normal salt solution and was stored under CO₂ refrigeration in 4-cc. quantities until needed. Dilutions were made from this into salt solution so that the desired number of units could be administered in doses of 0.5 cc.

Animals were routinely infected with 0.3- to 0.5-cc. amounts of 10-percent liver and kidney tissue suspension in salt solution. Mice infected with *L. icterohaemorrhagiae* were sacrificed on the third day after inoculation to provide infective material. At this time large numbers of organisms were present in smears of blood taken from the tail and examined under dark-field illumination. Variations in the survival time of animals infected with these suspensions occur, as it is extremely difficult to administer comparable numbers of organisms in suspensions of infective tissues. The strains used had been recently isolated from wild rats and were virulent for young white mice and guinea pigs.

The strain of *L. canicola* employed was obtained from the Army Veterinary School and had been found to be virulent for hamsters. Doses of 1.0 cc. of a 4-day-old culture incubated at 32° C. in Verwoort's medium were inoculated intraperitoneally into hamsters to produce illness.

Treatment was initiated at varying intervals after infective material had been given, and doses of 0.5 cc. of immune serum diluted 1 to 5 in salt solution or of penicillin of varying dilutions were injected intraperitoneally. Immune serum was administered in a single dose to animals while penicillin was administered in series of 6 or 8 doses given twice daily at about 8:30 a. m. and 4:30 p. m. Untreated controls were also included in each test. Observations were continued for 14 days before the experiments were terminated.

EXPERIMENTAL

A study was planned to determine the comparative effect of serum and penicillin on infections with *L. icterohaemorrhagiae* produced in young albino Swiss mice when 50 units of penicillin or 1:5 dilutions of immune serum in 0.5-cc. quantities were administered intraperitoneally 75 hours after infective material had been given. Three strains (ADIA, ADIB, and AD4) of organisms recently isolated from wild rats were used and 10-percent suspensions of liver and kidney tissues taken from infected mice were inoculated intraperitoneally in 0.4-cc. amounts into 3 groups of 24 mice each. Each group was then divided into 3 lots of 8 mice each. Treatment was started 75 hours

after inoculation of these materials. One lot from each of the 3 groups was treated with 50 units of penicillin repeated twice daily until 400 units had been given; and another lot from each group was treated with a single dose of diluted immune serum (R). The remaining lot in each group served as controls. The results, as shown in table 1, suggest that immune serum and penicillin as employed in this study had somewhat comparable therapeutic effects, varying considerably in mice, depending upon the stage of illness when therapy was instituted. If the dosage is so adjusted that the controls succumb soon after therapy is started in the treated animals little benefit is noted in the animals receiving immune serum or penicillin, while if the controls survive for 3 to 4 days after therapy is initiated in the treated lot, the beneficial result is marked in the animals receiving treatment.

TABLE 1.—Showing effect of intraperitoneal injection of 50 units of penicillin administered twice daily for 4 days and a single dose of 0.5 cc. of diluted immune serum (R) upon leptospirosis in young mice when treatment is instituted 75 hours after infection is induced with different strains of *L. icterohaemorrhagiae*

Strain of <i>L. icterohaemorrhagiae</i>	Treatment	Number of mice in each lot	Number of deaths, by days					Ratio of survival
			4	5	6	7	8	
ADIB.....	Penicillin.....	8	3	3	1	1	—	0/8
ADIB.....	Serum.....	8	3	3	2	—	—	0/8
ADIB.....	None.....	8	3	3	2	—	—	0/8
ADIA.....	Penicillin.....	8	3	1	—	—	—	4/8
ADIA.....	Serum.....	8	3	1	—	—	—	4/8
ADIA.....	None.....	8	—	8	—	—	—	0/8
AD4.....	Penicillin.....	8	—	—	—	—	—	8/8
AD4.....	Serum.....	8	—	—	—	—	—	8/8
AD4.....	None.....	8	—	—	—	3	5	0/8

In another test 80 mice were injected intraperitoneally with 0.3 cc. of a 10-percent suspension of infective mouse liver and kidney in salt solution (strain ADIB). The mice were divided into 5 lots of 16 mice each. One lot served as controls to which no treatment was given. All of the controls died during the interval between 90 and 124 hours after inoculation with infective material. Immune serum (R) was administered to 2 lots of mice. One lot was treated 44 hours after being infected; no deaths occurred among the animals. The other lot was treated 77 hours after being infected and 11 of 16 mice succumbed to infection. Similar lots of mice were treated with penicillin. The dose of penicillin was 50 units; this was given twice daily for 4 days. Among the 16 mice in which penicillin therapy was initiated 44 hours after the administration of the infective dose of organisms no deaths occurred, but there were 12 deaths among the 16 mice to which penicillin was first given 77 hours after infection had been induced.

A test was made in which immune serum and penicillin in the quantities given above were administered 52, 68, 72, 78, and 92 hours after

TABLE 2.—Results obtained by treating young Swiss mice with 8 repeated intraperitoneal doses of penicillin containing 50 units per 0.5 cc. or with a single dose of 0.5 cc. of diluted immune serum (R) when therapy is started at varying periods after intraperitoneal inoculation of 10 percent tissue suspension containing *L. icterohaemorrhagiae* (strain ADIB)

Interval between induction of infection and initiation of therapy (hours)	Type of therapeutic agent employed	Number of mice employed	Number of deaths, by days					Percent recovered
			3	4	5	6	7	
52.....	Serum.....	16.....			1	1		87.5
52.....	Penicillin.....	16.....	1		1			87.5
68.....	Serum.....	16.....		4	2	1	1	50.0
68.....	Penicillin.....	16.....	3	6		2	1	25.0
72.....	Serum.....	16.....		7	4	1		25.0
72.....	Penicillin.....	16.....		7	4	1	1	18.7
78.....	Serum.....	15.....		8	4	1	1	6.6
78.....	Penicillin.....	16.....		12	2			12.5
92.....	Serum.....	10.....		1	9			0
92.....	Penicillin.....	10.....		2	7		1	0
	None.....	32.....	1	13	13	5		0

0.3 cc. of 10-percent tissue suspension (ADIB) had been injected into mice intraperitoneally. This suspension contained about 0.5 leptospira per high-power field when observed under dark-field illumination. Seventy-two hours after administration of the infective material the untreated animals were definitely ill but no jaundice was apparent, while 92 hours after inoculation of infective material jaundice was present in nearly all the mice. The results obtained (table 2) show the value of these agents when administered early in the course of infection. After the mice became definitely ill this effect was materially decreased and by the time jaundice was present the therapeutic results were practically negligible. It appeared possible that the dosage of penicillin employed in the foregoing experiments was too small to exert the maximum therapeutic effect upon leptospirosis in mice. This possibility was tested by treating separate groups of mice infected with *L. icterohaemorrhagiae* with diluted immune serum and with penicillin solutions containing 50 or 100 units. Groups of 20 mice each were injected intraperitoneally with 0.3 cc. of a 10-percent suspension of infective liver and kidney tissue from mice ill with leptospirosis icterohaemorrhagica. Treatment was started at intervals of 48, 66, 78, and 88 hours after infection. No mice were treated with the larger amount of penicillin at the end of 48 hours, for experience had shown that the smaller dosage was adequate for treatment of leptospirosis at this early stage of the disease, but 2 lots of 20 mice each were treated with immune serum or penicillin in doses containing 50 units. Three lots of 20 mice each were treated 66 hours after administration of the infective dose. Immune serum or penicillin solution containing 50 units or 100 units was injected intraperitoneally into a lot of 20 mice. This procedure was repeated in an additional

lot of 20 mice each 78 hours after infection had been induced. Eighty-eight hours after administration of infective material 2 mice were dead in each of the 3 lots of 20 mice which were to have received the initial dose of immune serum or penicillin (50 or 100 units). Thus only 18 mice each received their initial dose of immune serum, 100 units of penicillin, or 50 units of penicillin 88 hours after infection had been started. Table 3 shows the results obtained. The larger dose of penicillin appeared to give slightly better results than were

TABLE 3.—*The effect of administration of 8 repeated doses of 50 or 100 units of penicillin or of a single inoculum of diluted immune serum (R) to young Swiss mice at varying intervals after infection with tissue suspensions containing L. icterohaemorrhagiae (strain ADIB)*

Interval between induction of infection and institution of therapy (hours)	Type of therapeutic agent employed	Number of mice employed	Number of deaths, by days										Percent recovered
			4	5	6	7	8	9	10	11	12		
48.....	Serum.....	20	1	—	—	—	—	—	—	—	—	95	
48.....	Penicillin (50 units).....	20	—	—	—	—	1	—	—	—	—	95	
66.....	Serum.....	20	1	1	4	—	—	—	—	—	—	70	
66.....	Penicillin (50 units).....	20	2	3	4	2	—	—	—	—	—	45	
66.....	Penicillin (100 units).....	20	—	1	2	4	2	—	—	—	—	55	
78.....	Serum.....	20	9	2	—	—	1	1	—	—	—	35	
78.....	Penicillin (50 units).....	20	5	5	6	—	1	—	—	—	—	15	
78.....	Penicillin (100 units).....	20	3	2	6	2	—	—	—	—	—	35	
88.....	Serum.....	18	10	6	1	1	—	—	—	—	—	0	
88.....	Penicillin (50 units).....	18	6	11	—	—	1	—	—	—	—	0	
88.....	Penicillin (100).....	18	2	7	3	—	—	—	—	1	—	28	
	None.....	40	9	23	5	1	1	1	—	—	—	0	

obtained with 50 units of this drug and in this experiment there was a significant number of survivors among the animals treated with 100 units of penicillin 88 hours after infection had been induced and at a period when 10 percent of the original group of mice had succumbed.

A similar experiment was performed in which lots of 20 mice each were treated with diluted immune serum (H), 100 or 200 units of penicillin, or diluted immune serum together with 100 units of penicillin at intervals of 66, 72, and 88 hours after the infective agent had been given (table 4). In addition, lots of 10 mice each were given immune serum or 100 units of penicillin 48 hours after the mice were infected. Diluted immune serum and diluted immune serum mixed with 100 units of penicillin were given only once while the penicillin alone was administered intraperitoneally in 6 divided doses of 100 or 200 units each. All materials were given in 0.5-cc. amounts. After an interval of 48 hours following infection, dark-field examination of smears of peritoneal fluid showed the presence of many leptospirae but none were detected by examination of blood smears. Many organisms were present in the blood stream 66 hours after administration of the infectious agent. At the end of 72 hours the untreated mice were listless, the fur rough, and the eyes dull; and by 88 hours the untreated

animals were slightly jaundiced. Marked icterus was apparent in the controls 96 hours after they had been infected. Data accumulated from this experiment do not indicate that large doses of penicillin or combined therapy of a single dose of combined penicillin and serum is of any greater benefit than that obtained with smaller repeated doses of penicillin or with a single dose of immune serum alone.

TABLE 4.—Effect of treating mice infected with *L. icterohaemorrhagiae* (strain ADIB) 48, 66, 72, and 88 hours after administration of infective suspension. Serum (H) given in single dose (0.5 cc. of 1:5 dilution), penicillin (100 units) and diluted serum in a single dose and penicillin in 6 repeated doses of 100 or 200 units each

Interval between induction of infection and initiation of therapy (hours)	Type of therapeutic agent employed	Number of mice used	Number of deaths, by days										Percent recovered
			4	5	6	7	8	9	10	11	12		
48	Serum	10				1		1				80	
48	Penicillin (50 units)	10				1		1				80	
66	Serum	20	1		1	4	2	1				55	
66	Serum + penicillin (100 units)	20			1	3	2	1				65	
66	Penicillin (100 units)	20			1	2	1	2				70	
66	Penicillin (200 units)	20		1	1	4	1		1			60	
72	Serum	20		1	1	3	4		2			45	
72	Serum + penicillin (100 units)	20			4	3	4	1		1		35	
72	Penicillin (100 units)	20			11	5		1		1		10	
72	Penicillin (200 units)	20			2	6	1			1		50	
88	Serum	20		10	5	3	2					0	
88	Serum + penicillin (100 units)	20		4	5	4	3				1	15	
88	Penicillin (100 units)	20	3	9	4	1		2				5	
88	Penicillin (200 units)	19	1	11	4	1				1		5	
	None	37	2	14	16	4	1					0	

A single experiment was performed to determine whether or not penicillin was effective against *L. canicola* infections in hamsters. A group of 12 hamsters approximately 4 weeks of age was inoculated intraperitoneally with 1.0 cc. of a 4-day-old culture of these organisms grown at 32° C. in Verwoort's medium. Therapy was not begun until 66 hours had elapsed after the infective dose was given. At this time 1.0 cc. of a 1:5 dilution of serum from a rabbit previously immunized against *L. canicola* was given to 4 of the hamsters intraperitoneally and 1.0 cc. of a penicillin solution containing 200 units per cc. was given to 4 other hamsters by the same route, while 4 received no treatment whatever. The immune serum was administered in a single dose but penicillin was given twice daily until 1,600 units had been given. None of the animals receiving serum became ill, while the 4 hamsters serving as controls died on the fourth, fourth, fifth, and eighth days, respectively after being infected. One hamster which received 8 injections (1,600 units) of penicillin (over a period of 4 days) died on the seventh day after being inoculated with organisms. (Three of the animals treated with penicillin were well when the experiment was terminated.) This animal became jaundiced and at

autopsy icterus and hemorrhages of the subcutaneous tissues were observed. Many confluent hemorrhages were present in the lungs and the kidneys, and the right epididymis was hemorrhagic. The liver was bile-stained, and numerous leptospirae were demonstrable in smears from this organ examined under dark-field illumination. The icterus and degree of hemorrhagic involvement had not been observed previously in untreated animals dying of infections with *L. canicola*.

DISCUSSION

The results obtained in this study show that penicillin and specific immune serum have a marked therapeutic effect upon the course of disease produced by *L. icterohaemorrhagiae* in young Swiss mice and by *L. canicola* in hamsters. Both agents were fully effective when administered as late as 48 hours after infection had been induced in mice, but at periods beyond this the value of the drug materially decreased. At the time symptoms appear in mice the infection has progressed to a point where serum and penicillin are unable to cure the majority of mice infected with *L. icterohaemorrhagiae*, and by the time icterus has appeared among the animals the mortality is practically the same among treated as among untreated animals. The results obtained by use of immune serum alone as compared to those obtained by use of penicillin alone indicate that there is little choice, as here employed, between the drugs as far as efficacy of treatment for leptospirosis in mice and hamsters is concerned.

SUMMARY

Mice and hamsters infected with *Leptospira icterohaemorrhagiae* and *L. canicola* were treated with specific immune serum and with penicillin at varying intervals after administration of infective material.

The therapeutic effect of penicillin is comparable to that obtained with specific immune serum in the treatment of leptospirosis in experimental animals under the conditions of this study.

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- (2) Larson, C. L.: Treatment of young white mice infected with *Leptospira icterohaemorrhagiae* with immune serum. Pub. Health Rep., 58: 10-15 (1943).
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PENICILLIN TREATMENT OF LEPROSY: CLINICAL NOTE¹

By G. H. FAGET, *Medical Director*, and R. C. POGGE, *Acting Assistant Surgeon*,
United States Marine Hospital (National Leprosarium), Carville, La.

Penicillin was tried at the National Leprosarium in the treatment of 7 cases of leprosy in doses of 50,000 to 100,000 units daily which were continued in some cases for a month's time. No specific beneficial effect could be attributed to this treatment either during the course of medication or for 6 months thereafter.

Subsequently two of the previously treated patients and two new patients were given much larger doses of penicillin without effect. Brief case reports on these four patients follow:

Case 6.—Male, 34 years of age, with moderately advanced lepromatous leprosy, was treated during a subacute leprae reaction. It was considered important to note if penicillin had any favorable influence on this condition. The penicillin was injected intramuscularly every 3 hours in doses of 40,000 units for a total of 320,000 units in 24 hours. By the second day of treatment the reaction became more acute with outcropping of new erythema nodosum lesions, chills, and high fever, muscular aches, nausea, and great debility. Nevertheless, penicillin therapy was continued in undiminished doses for 2 more days. It then had to be discontinued because of the severity of the reaction and the extreme debility of the patient. Altogether this patient received 1,280,000 units of penicillin. There were no clinical changes in lepromatous lesions during treatment or for a period of more than 1 month thereafter.

Case 7.—Male, 22 years of age, with moderately advanced mixed type of leprosy, was given 40,000 units of penicillin intramuscularly every 3 hours. Treatment was continued for 10 days totalling 3,200,000 units. This patient had previously been treated with 50,000 units of penicillin daily for a period of 40 days. No clinical changes were noted in leprosy lesions. The period of observation was over 6 months following the first course and 1 month following the second course of treatment.

Case 8.—Female, 44 years of age, with moderately advanced mixed type of leprosy, weighing only 90 pounds. She was given 33,000 units of penicillin every 3 hours by intramuscular injections for a period of 10 days, a total of 2,630,000 units. Previously this patient had been treated for 30 days with 50,000 units of penicillin daily. No effects were noted in any lesions for more than 6 months subsequent to the first course of treatment and 1 month following the second.

Case 9.—Male, 20 years of age, with moderately advanced lepromatous leprosy, was treated with 40,000 units of penicillin intramuscularly every 3 hours. Treatment was continued for a little more than 10 days and totaled 3,240,000 units. There were no changes in the discrete nodular lesions of leprosy either during treatment or for 1 month thereafter.

¹ This note represents an abstract of a paper entitled, Penicillin used unsuccessfully in leprosy, which will appear in the next issue of the *International Journal of Leprosy*, Vol. XII (1945).

The accompanying table briefly summarizes data on the nine patients who have received penicillin:

Summary: Penicillin therapy of leprosy

Case	Clinical type	Penicillin therapy			Remarks
		Units per 24 hours	Duration (days)	Total units	
1	Lepromatous.....	50,000	23	1,000,000	No effect except healing of ulcers.
2	do.....	50,000	21	1,000,000	No effect.
3	do.....	100,000	30	3,000,000	Do.
4	Mixed.....	50,000	30	1,500,000	Do.
5	do.....	50,000	20	1,000,000	Do.
6	Lepromatous.....	300,000	4	1,200,000	Lepra reaction.
7	Mixed.....	320,000	10	3,200,000	No effect.
8	do.....	264,000	10	2,630,000	Do.
9	Lepromatous.....	320,000	10	3,240,000	Do.

¹ These 2 patients had been previously treated with 50,000 units daily for 1 month or more without beneficial effects.

It is concluded that penicillin in doses even larger than those usually found adequate in the treatment of syphilis are ineffectual in the treatment of leprosy.

ANNOUNCEMENT

STATE AND TERRITORIAL HEALTH OFFICERS' CONFERENCE

The forty-third annual conference of the United States Public Health Service with the State and Territorial health officers will be held April 9, 10, and 11 in the National Academy of Sciences, 2101 Constitution Avenue, Washington, D. C. All State health officials are urged to attend. The meeting is required by law, and therefore has been approved by the Committee on Conventions. General sessions of the conference are open to all interested persons but attendance by out-of-town visitors is not encouraged in view of travel restrictions.

PREVALENCE OF COMMUNICABLE DISEASES IN UNITED STATES

January 28-February 24, 1945

The accompanying table summarizes the prevalence of nine important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State for each week are published in the Public Health Reports under the section "Prevalence of disease." The table gives the number of cases of these diseases for the 4 weeks ended February 24, 1945, the number reported for the corresponding period in 1944, and the median for the years 1940-44.

DISEASES ABOVE MEDIAN PREVALENCE

Diphtheria.—For the 4 weeks ended February 24 there were 1,242 cases of diphtheria reported as compared with 971 for the corresponding period in 1944 and a 5-year (1940-44) median of 1,158 cases. Increases over the 1944 figures were reported from all sections except the New England and East North Central sections, while increases over the seasonal expectancy occurred in only the West North Central, East and West South Central, and Pacific sections. In the New England, South Atlantic, and Mountain sections the incidence was about normal for this season of the year and in the Middle Atlantic and East North Central sections the numbers of cases were relatively low.

Number of reported cases of 9 communicable diseases in the United States during the 4-week period January 28-February 24, 1945, the number for the corresponding period in 1944, and the median number of cases reported for the corresponding period, 1940-44

Division	Current period	1944	5-year median	Current period	1944	5-year median	Current period	1944	5-year median
	Diphtheria			Influenza ¹			Measles ²		
United States.....	1, 242	971	1, 158	17, 922	39, 284	39, 284	8, 107	91, 984	61, 200
New England.....	25	33	23	127	234	57	606	5, 527	4, 084
Middle Atlantic.....	113	77	173	43	167	167	817	19, 096	19, 096
East North Central.....	118	160	163	164	1, 509	1, 509	635	27, 676	7, 455
West North Central.....	104	91	97	187	483	483	371	10, 081	4, 196
South Atlantic.....	185	137	190	5, 659	10, 615	10, 615	961	14, 809	7, 041
East South Central.....	118	69	106	1, 086	3, 803	3, 803	268	3, 236	2, 975
West South Central.....	338	232	247	9, 817	17, 134	17, 134	1, 208	4, 282	2, 785
Mountain.....	65	49	77	697	4, 077	1, 999	389	3, 403	3, 215
Pacific.....	176	123	115	142	1, 262	1, 262	2, 852	3, 874	5, 804
	Meningococcus meningitis			Polio myelitis			Scarlet fever		
United States.....	1, 034	2, 214	273	172	90	101	22, 910	23, 362	16, 265
New England.....	40	129	29	8	2	2	2, 036	2, 344	1, 835
Middle Atlantic.....	213	455	61	60	6	8	4, 599	4, 778	3, 945
East North Central.....	200	421	20	10	5	17	5, 987	5, 435	4, 801
West North Central.....	62	177	19	14	5	10	2, 353	2, 984	1, 796
South Atlantic.....	161	327	57	21	10	14	2, 659	2, 460	1, 159
East South Central.....	107	261	43	15	9	9	967	772	735
West South Central.....	122	184	52	10	15	13	856	546	439
Mountain.....	22	33	12	7	6	6	1, 303	1, 384	734
Pacific.....	107	227	12	27	34	19	2, 150	2, 659	865
	Smallpox			Typhoid and paratyphoid fever			Whooping cough ³		
United States.....	43	64	103	258	398	292	9, 357	7, 396	15, 061
New England.....	0	0	0	14	9	12	1, 141	597	1, 256
Middle Atlantic.....	0	0	0	82	36	36	1, 905	1, 273	3, 307
East North Central.....	17	16	39	14	207	39	1, 625	1, 473	3, 151
West North Central.....	4	5	17	18	8	15	385	515	669
South Atlantic.....	2	4	3	32	43	45	1, 246	1, 469	1, 941
East South Central.....	2	6	6	22	24	24	270	397	580
West South Central.....	11	16	16	43	50	46	1, 181	658	658
Mountain.....	2	3	4	12	8	11	531	430	769
Pacific.....	5	14	1	21	13	16	1, 073	584	1, 270

¹ Mississippi and New York excluded; New York City included.

² Mississippi excluded.

Meningococcus meningitis.—The number of cases of meningococcus meningitis rose from 953 cases during the preceding 4-week period to 1,034 for the current 4 weeks. The current figure was less than one-half of the number of cases reported for the corresponding period in 1944, but it was almost 4 times the preceding 5-year median. An increase in this disease is normally expected at this season of the year and, while the incidence is at a relatively high level, the rate of increase during the current period was about normal. The increases over the 1940-44 medians ranged from 1.4 times the median in the New England section to 10 times the median in the East North Central section.

Poliomyelitis.—The incidence of poliomyelitis continued at a relatively high level, 172 cases being reported, as compared with 90 cases in 1944 and a 5-year median of 101 cases. Increases over the seasonal expectancy were reported from the Atlantic Coast, East South Central, and Pacific sections, while in other sections the number of cases either closely approximated the median or fell below it.

Scarlet fever.—The number of cases of scarlet fever was slightly below the number reported for the corresponding weeks in 1944, but it was 1.4 times the normal seasonal expectancy (approximately 16,000 cases). An increase over the 1940-44 median was reported from all sections of the country, with the highest relative excesses occurring in the South Atlantic and Pacific sections. With the exception of 1944 the current incidence is the highest since 1938, when approximately 24,000 cases were reported for the corresponding weeks.

DISEASES BELOW MEDIAN PREVALENCE

Influenza.—For the 4 weeks ended February 24 there were 17,922 cases of influenza reported. The number of cases was less than 50 percent of the number reported for the corresponding weeks in 1944, which figure (39,254 cases) represented the 1940-44 median incidence. The number of cases reported from the New England section was slightly above the seasonal expectancy, but in all other sections the incidence was relatively low. For the country as a whole the current incidence was the lowest since 1938, when approximately 13,000 cases were reported for the corresponding 4-week period.

Measles.—The reported cases of measles rose from 5,362 during the 4 weeks ended January 27, to 8,107 for the 4 weeks ended February 24. An increase of this disease normally occurs at this season of the year. Compared with preceding years, however, the number of cases is the lowest recorded for this period in the 18 years for which these data are available. The nearest approach to the current figure was in 1940 when 22,000 cases were reported for these same weeks.

Smallpox.—The incidence of this disease remained at a relatively low level. The number of cases (43) reported for the current 4 weeks was about 70 percent of the number reported in 1944 and about 40 percent of the 1940-44 median for the same weeks. While the number of cases (5) in the Pacific region was small, it was 5 times the preceding 5-year median. In all other sections the incidence was considerably below the normal seasonal expectancy.

Typhoid and paratyphoid fever.—For the current 4-week period there were 258 cases of typhoid fever reported as compared with 398 for the corresponding period in 1944 and a 5-year median of 292 cases. In all sections except the Middle Atlantic and East North Central the number of cases closely approximated the preceding 5-year median of 292 cases. In the Middle Atlantic section the number of cases (82) was two and one-third times the median, while in the East North Central section the number (14) was less than one-half of the median. Sixty-three of the total cases reported from the Middle Atlantic section occurred in Pennsylvania.

Whooping cough.—The number of cases of whooping cough reported for the current period was 1.3 times the number reported for the corresponding period in 1944, but it was only about 60 percent of the 1940-44 median incidence. The number of cases was higher than in 1944 in each section except the West North Central and East South Central, but only the West South Central section reported an increase over the 1940-44 median.

MORTALITY, ALL CAUSES

For the 4 weeks ended February 24 there were 39,286 deaths from all causes reported to the Bureau of the Census by 93 large cities. The average number for the same period in the years 1942-44 was 38,856 cases. While for the 4 weeks the number of deaths was slightly above the preceding 3-year average there was a decline of about 5 percent during the last week of the period from the same week in 1944.

COURT DECISION ON PUBLIC HEALTH

Substances injurious to health of residents in vicinity—allowing to remain on premises.—(Texas Court of Criminal Appeals; *McNeese v. State*, 180 S.W.2d 164, decided April 5, 1944, rehearing denied May 24, 1944.) Article 695 of the Texas Penal Code provided: "Whoever shall carry on any trade, business or occupation injurious to the health of those who reside in the vicinity, or suffer any substance which has that effect to remain on premises in his possession, shall be fined not less than 10 nor more than 100 dollars. Each day is a separate offense." It was charged that the appellant suffered substances which

were injurious to the health of those who resided in the vicinity to remain on premises in his possession. These substances were alleged to be barrels, kegs, and cans of water full of mosquitoes and mosquito larvae, excreta deposited on the surface of the soil and not protected from flies and other germ carriers, rubble and rubbish in which flies and rodents could harbor and breed and become germ carriers, and very high, thick weeds over most of the premises. From a conviction and fine in the lower court the appellant appealed to the Court of Criminal Appeals of Texas.

One of the appellant's complaints was that the State did not show that the health of any person living in the vicinity was injuriously affected by the things found on appellant's premises. Concerning this the appellate court did not think that the statute intended to convey such a meaning. The law carried with it a preventive idea primarily and should be a safeguard to the community's health rather than a punishment for having caused the spread of disease. "The statute should be construed to mean matters calculated to be injurious to health, and it would not be expected of the State to show that a mosquito bred in one of these barrels had bitten a person in such vicinity and infected such person with matters injurious to his health." Also the court was of the view that the statute set forth two ways in which it could be violated, one being by carrying on a trade, business, or occupation, and the other by suffering premises under one's control to contain certain substances, either class being injurious to public health. In affirming the judgment of the lower court the appellate court said that it thought that it was fairly clear that the condition of the appellant's property reasonably endangered and threatened the health of the public, that the legislature had the power to declare such matters to be those to be regulated by law as was done in Article 695 of the Penal Code, and that such statute did not offend against the constitution or the appellant's inherent rights.

DEATHS DURING WEEK ENDED FEBRUARY 24, 1945

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended February 24, 1945	Correspond- ing week, 1944
Data for 93 large cities of the United States:		
Total deaths.....	9,351	9,699
Average for 3 prior years.....	9,811	
Total deaths, first 8 weeks of year.....	78,392	84,272
Deaths, under 1 year of age.....	592	620
Average for 3 prior years.....	631	
Deaths under 1 year of age, first 8 weeks of year.....	5,063	5,117
Data from industrial insurance companies:		
Policies in force.....	67,020,558	66,316,976
Number of death claims.....	11,945	10,865
Death claims per 1,000 policies in force, annual rate.....	9.3	8.6
Death claims per 1,000 policies, first 8 weeks of year, annual rate.....	10.4	11.7

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED MARCH 3, 1945

Summary

The current incidence of meningococcus meningitis, 267 cases for the week, as compared with 290 last week, is only about half that for either of the past two years. Of the current total, 114 cases occurred in the 5 States reporting more than 13 cases each, as follows (last week's figures in parentheses): New York 34 (27), Pennsylvania 19 (25), Illinois 20 (28), Texas 23 (25), California 18 (25). The total for the year to date is 2,254, as compared with 5,073 for the same period last year, 3,515 in 1943, and a 5-year (1940-44) median of 573 for the same period.

Of the current total of 26 cases of poliomyelitis, the same as for last week, no State reported more than 3 cases. The corresponding 5-year median is 18. The cumulative total, 341 cases, is more than reported for the corresponding period of any year since 1928.

The incidence of scarlet fever, 6,414 cases for the current week, as compared with 5,964 last week, and a 5-year median of 4,357, is higher than for any corresponding week since 1937 with the exception of 1944, when 6,985 cases were reported for the same week. The cumulative figure, 48,336, is more than for the corresponding period of any of the past 5 years, and approximately 40 percent above the 5-year median.

Certain other diseases with cumulative figures for the first 9 weeks of the year considerably above those for the corresponding period last year (last year's figures in parentheses) are as follows: Diphtheria 2,882 (2,282), dysentery (all forms) 6,588 (2,666), tularemia 198 (92), typhus fever 511 (385), undulant fever 760 (358).

The incidence of both smallpox and typhoid fever continues low. A new minimum has been established for smallpox, with only 85 cases reported to date, as compared with 124 last year, a 5-year median of 245, and 640 cases for the corresponding period in 1940. The cumulative total for typhoid fever (525 cases) is below that for the corresponding period of any prior year except 1943, when 465 were reported. The 5-year median is 670.

One case of psittacosis was reported during the week in Cuyahoga County, Ohio.

A total of 9,884 deaths was recorded for the week in 93 large cities of the United States, as compared with 9,351 last week, 9,852 for the corresponding week last year, and a 3-year (1942-44) average of 9,688. The total to date is 88,276, as compared with 94,124 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended March 3, 1945, and comparison with corresponding week of 1944 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, men- gococcus		
	Week ended—		Med- ian 1940- 44	Week ended—		Med- ian 1940- 44	Week ended—		Med- ian 1940- 44	Week ended—		Med- ian 1940- 44
	Mar. 3, 1945	Mar. 4, 1944		Mar. 3, 1945	Mar. 4, 1944		Mar. 3, 1945	Mar. 4, 1944		Mar. 3, 1945	Mar. 4, 1944	
NEW ENGLAND												
Maine.....	0	1	1	1	1	1	4	257	129	0	5	2
New Hampshire.....	0	0	0	—	4	4	0	0	23	1	1	0
Vermont.....	0	0	0	—	16	—	20	114	47	0	1	0
Massachusetts.....	4	11	3	—	—	—	104	597	597	8	28	11
Rhode Island.....	0	1	0	44	—	—	8	424	169	4	11	1
Connecticut.....	1	0	1	3	5	5	94	443	259	3	11	4
MIDDLE ATLANTIC												
New York.....	11	13	18	13	10	17	90	2,401	2,040	34	65	5
New Jersey.....	1	3	6	3	6	17	47	1,496	1,299	13	26	5
Pennsylvania.....	11	8	11	2	5	—	116	976	976	19	32	12
EAST NORTH CENTRAL												
Ohio.....	8	8	8	5	38	38	35	7,295	292	11	27	3
Indiana.....	8	12	11	40	44	44	12	320	320	4	12	1
Illinois.....	2	13	16	8	42	42	83	1,157	835	20	46	2
Michigan.....	10	3	3	2	2	5	22	1,396	241	5	22	1
Wisconsin.....	0	5	1	59	96	96	33	1,683	647	5	10	0
WEST NORTH CENTRAL												
Minnesota.....	7	4	4	1	1	3	4	1,623	253	3	3	1
Iowa.....	2	19	3	—	10	10	16	348	309	1	1	0
Missouri.....	4	4	4	4	10	10	9	426	255	7	26	1
North Dakota.....	0	1	1	40	211	44	1	195	53	1	5	0
South Dakota.....	1	1	1	—	—	—	1	68	21	0	0	0
Nebraska.....	2	6	3	—	7	7	18	56	56	0	2	0
Kansas.....	8	7	5	1	9	14	13	781	429	2	4	1
SOUTH ATLANTIC												
Delaware.....	0	0	0	—	—	—	20	9	9	0	3	0
Maryland.....	5	10	5	12	29	29	59	845	115	5	14	3
District of Columbia.....	0	0	2	1	2	3	8	136	67	1	2	2
Virginia.....	6	4	10	616	659	659	45	953	338	10	20	3
West Virginia.....	1	2	4	16	43	52	28	1,377	229	1	3	1
North Carolina.....	12	11	12	—	19	52	42	1,731	490	8	13	4
South Carolina.....	2	1	3	984	657	945	24	435	192	4	11	5
Georgia.....	4	5	8	21	115	261	27	565	200	5	9	3
Florida.....	3	2	3	2	8	8	47	306	165	10	17	1
EAST SOUTH CENTRAL												
Kentucky.....	5	2	5	35	207	107	19	205	205	8	11	6
Tennessee.....	3	5	4	43	108	187	83	314	185	7	29	2
Alabama.....	8	3	3	198	232	233	10	480	224	2	17	1
Mississippi.....	12	4	4	—	—	—	—	—	—	3	7	0
WEST SOUTH CENTRAL												
Arkansas.....	10	0	3	155	174	236	27	126	126	8	1	0
Louisiana.....	2	4	4	2	214	133	15	381	85	1	12	3
Oklahoma.....	6	12	6	233	300	209	23	107	34	1	9	0
Texas.....	41	32	35	1,415	1,359	1,658	431	1,016	620	23	12	4
MOUNTAIN												
Montana.....	1	2	0	24	38	25	6	186	90	0	0	0
Idaho.....	4	0	0	—	—	—	7	114	96	0	0	0
Wyoming.....	0	1	0	—	9	14	8	73	77	1	1	1
Colorado.....	8	4	7	35	67	64	14	404	207	0	4	1
New Mexico.....	2	0	2	8	2	2	3	47	47	2	0	0
Arizona.....	1	1	1	66	184	184	3	376	111	3	1	0
Utah.....	0	0	1	1	139	20	124	52	93	1	0	0
Nevada.....	0	0	0	3	22	—	7	5	2	0	0	0
PACIFIC												
Washington.....	5	1	1	2	3	3	84	151	151	3	5	1
Oregon.....	2	3	1	13	55	30	42	76	391	1	3	0
California.....	30	23	20	40	87	101	843	1,712	741	18	44	6
Total.....	253	252	270	4,141	5,249	5,457	2,813	34,238	18,496	267	586	70
9 weeks.....	2,882	2,282	2,750	39,166	306,514	124,174	16,310	176,073	114,932	2,254	5,073	873

*Delayed report for New Mexico for week ended February 24, 1945 (included in cumulative totals); Diphtheria, 2; dysentery, bacillary, 1; unspecified, 1; influenza, 2; measles, 5; meningococcus meningitis, 2; scarlet fever, 26; typhoid fever, 3; whooping cough, 9.

¹ New York City only.

² Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended March 5, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and para typhoid fever 1		
	Week ended—		Me- dian 1940- 44	Week ended—		Me- dian 1940-44	Week ended—		Me- dian 1940- 44	Week ended—		Me- dian 1940- 44
	Mar. 3, 1945	Mar. 4, 1944		Mar. 3, 1945	Mar. 4, 1944		Mar. 3, 1945	Mar. 4, 1944		Mar. 3, 1945	Mar. 4, 1944	
NEW ENGLAND												
Maine.....	0	0	0	62	37	6	0	0	0	1	0	0
New Hampshire.....	0	0	0	6	11	8	0	0	0	0	0	0
Vermont.....	0	0	0	11	13	7	0	0	0	0	0	0
Massachusetts.....	0	0	0	322	390	272	0	0	0	2	0	1
Rhode Island.....	0	0	0	47	17	17	0	0	0	1	0	0
Connecticut.....	0	0	0	81	85	61	0	0	0	0	2	1
MIDDLE ATLANTIC												
New York.....	1	1	1	719	548	548	0	0	0	5	0	6
New Jersey.....	1	0	0	175	240	240	0	0	0	0	1	1
Pennsylvania.....	0	2	0	651	594	339	0	0	0	9	7	5
EAST NORTH CENTRAL												
Ohio.....	1	1	1	498	736	399	0	0	0	2	0	3
Indiana.....	0	1	0	188	205	168	1	1	1	1	11	1
Illinois.....	2	0	0	453	470	470	0	0	4	4	1	2
Michigan 1.....	0	0	0	259	250	261	0	0	0	1	0	1
Wisconsin.....	0	0	0	280	360	176	0	0	0	1	0	0
WEST NORTH CENTRAL												
Minnesota.....	1	0	0	96	261	118	0	0	1	0	0	0
Iowa.....	2	0	0	65	171	65	1	5	1	0	1	1
Missouri.....	2	0	0	173	117	101	0	0	2	1	1	1
North Dakota.....	0	0	0	19	38	17	0	0	0	0	1	0
South Dakota.....	0	0	0	11	35	21	1	0	0	0	0	0
Nebraska.....	0	1	0	93	96	57	1	0	0	0	0	0
Kansas.....	0	0	0	120	126	83	2	0	0	0	0	0
SOUTH ATLANTIC												
Delaware.....	0	0	0	18	6	7	0	0	0	0	0	0
Maryland 1.....	0	0	0	284	230	91	0	0	0	0	2	2
District of Columbia.....	0	0	0	61	232	26	0	0	0	0	0	0
Virginia.....	2	0	0	174	63	35	0	0	0	1	0	1
West Virginia.....	0	0	0	58	100	53	0	0	0	0	1	0
North Carolina.....	3	0	1	90	37	45	0	0	0	3	0	0
South Carolina.....	0	0	0	9	11	8	0	0	0	1	0	0
Georgia.....	0	0	0	31	17	17	1	0	0	6	1	1
Florida.....	0	1	1	14	17	12	0	0	0	1	2	2
EAST SOUTH CENTRAL												
Kentucky.....	2	0	0	89	73	88	0	0	0	1	2	2
Tennessee.....	0	1	1	67	65	73	0	0	0	0	2	3
Alabama.....	0	0	1	20	22	18	0	0	0	0	0	1
Mississippi 1.....	0	0	1	54	4	8	0	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas.....	2	0	0	26	6	6	0	0	0	1	1	1
Louisiana.....	1	0	0	15	4	11	0	0	0	0	0	1
Oklahoma.....	0	0	0	27	50	27	0	0	1	0	0	0
Texas.....	2	1	1	136	82	67	0	4	4	3	8	5
MOUNTAIN												
Montana.....	1	0	0	43	49	33	0	0	0	0	0	0
Idaho.....	0	0	0	57	77	6	1	0	0	0	0	0
Wyoming.....	0	0	0	8	14	14	0	0	0	0	0	0
Colorado.....	0	1	0	92	70	53	0	0	0	0	0	2
New Mexico 1.....	0	0	0	30	11	10	0	0	0	1	1	0
Arizona.....	0	0	0	25	13	13	0	1	0	1	0	1
Utah 1.....	0	0	0	38	156	24	0	0	0	0	0	0
Nevada.....	0	0	0	5	5	0	1	0	0	0	0	0
PACIFIC												
Washington.....	0	1	0	120	278	64	0	0	0	0	0	1
Oregon.....	0	1	0	53	143	14	0	0	0	0	1	1
California.....	3	3	2	452	350	144	0	0	0	0	3	2
Total.....	26	15	18	6,425	6,985	4,357	9	11	21	47	49	56
9 weeks.....	341	224	247	48,347	47,413	34,622	86	124	245	625	700	670

²See footnote on p. 331.

³Period ended earlier than Saturday.

¹Including paratyphoid fever reported separately as follows: Maine, 1; Massachusetts, 2; Rhode Island 1 New York, 1; Illinois, 1; Michigan, 1; Georgia, 3; Kentucky, 1.

Telegraphic morbidity reports from State health officers for the week ended March 3, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Whooping cough			Week ended March 3, 1945							
	Week ended—		Median 1940-44	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever	Undulant fever
	Mar. 3, 1945	Mar. 4, 1944		Amebic	Bacillary	Un- spec- ified					
NEW ENGLAND											
Maine.....	51	17	28	0	0	0	0	0	0	0	1
New Hampshire.....	0	1	12	0	0	0	0	0	0	0	0
Vermont.....	43	35	35	0	0	0	0	0	0	0	0
Massachusetts.....	175	63	173	0	1	0	0	0	0	0	0
Rhode Island.....	33	15	19	0	2	0	0	0	0	0	0
Connecticut.....	37	39	45	0	0	0	0	0	0	0	3
MIDDLE ATLANTIC											
New York.....	234	127	307	3	23	0	0	0	0	0	8
New Jersey.....	103	54	107	0	0	0	0	0	0	0	1
Pennsylvania.....	171	131	341	0	0	0	0	0	0	0	11
EAST NORTH CENTRAL											
Ohio.....	135	179	177	0	0	0	0	0	0	0	1
Indiana.....	13	29	33	0	0	0	0	0	0	0	0
Illinois.....	85	53	110	2	0	0	0	0	2	0	3
Michigan ¹	49	99	153	0	1	0	0	0	0	0	1
Wisconsin.....	63	68	130	0	0	0	0	0	0	0	7
WEST NORTH CENTRAL											
Minnesota.....	39	27	43	2	0	0	0	0	0	0	2
Iowa.....	9	8	18	0	0	0	0	0	0	0	1
Missouri.....	7	12	12	0	0	1	0	0	0	0	0
North Dakota.....	1	8	14	0	0	0	1	0	0	0	0
South Dakota.....	4	4	1	0	0	0	0	0	0	0	1
Nebraska.....	2	30	6	0	0	0	1	0	0	0	0
Kansas.....	44	34	58	0	1	0	1	0	0	0	4
SOUTH ATLANTIC											
Delaware.....	0	0	8	1	0	0	0	0	0	0	0
Maryland ¹	38	28	84	0	0	0	0	0	0	0	0
District of Columbia.....	2	3	11	0	0	0	0	0	0	0	0
Virginia.....	36	55	55	0	0	246	0	0	1	0	0
West Virginia.....	62	25	42	0	0	0	0	0	0	0	0
North Carolina.....	116	196	178	0	0	0	0	0	1	1	0
South Carolina.....	54	61	61	0	3	0	0	0	0	0	0
Georgia.....	20	21	37	2	2	0	0	0	2	4	4
Florida.....	29	32	21	2	1	0	0	0	0	5	0
EAST SOUTH CENTRAL											
Kentucky.....	44	51	52	0	1	0	0	0	1	0	0
Tennessee.....	19	24	31	0	0	1	2	0	1	1	1
Alabama.....	13	23	12	0	0	0	0	0	0	7	2
Mississippi ¹				0	0	0	0	0	1	0	3
WEST SOUTH CENTRAL											
Arkansas.....	16	15	16	1	1	0	0	0	0	0	0
Louisiana.....	1	0	6	1	0	0	0	0	0	0	1
Oklahoma.....	11	5	9	0	3	0	0	0	0	0	0
Texas.....	215	130	167	6	295	4	2	0	0	11	9
MOUNTAIN											
Montana.....	1	3	10	0	0	0	0	0	0	0	0
Idaho.....	0	16	9	0	0	0	0	0	0	0	0
Wyoming.....	5	3	2	0	0	0	0	0	0	0	0
Colorado.....	30	25	28	0	0	0	0	0	0	0	7
New Mexico [*]	17	1	19	0	1	0	0	0	0	0	0
Arizona.....	23	42	28	0	0	13	0	0	0	0	0
Utah ¹	17	15	54	0	0	0	0	0	0	0	1
Nevada.....	0	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington.....	38	55	55	0	44	0	0	0	0	0	1
Oregon.....	4	19	19	0	0	0	0	0	0	0	0
California.....	284	72	272	2	6	0	0	0	0	3	12
Total.....	2,393	1,953	3,907	22	385	265	7	0	9	32	85
Same week 1944.....	1,953	-----	-----	34	140	89	19	0	12	31	45
Average, 1942-44.....	3,265	-----	-----	24	178	47	15	4	11	431	31
9 weeks: 1945.....	20,735	-----	-----	241	5,066	1,281	57	4	198	511	760
1944.....	16,418	-----	-----	216	1,873	577	91	2	92	385	358
Average, 1942-44.....	29,153	-----	34,878	177	1,445	405	82	4	151	4385	273

*See footnote on p. 331.

¹ Period ended earlier than Saturday.

^{*} 5-year median, 1940-44.

Psittacosis: Ohio, Cuyahoga County, 1 case.

NOTIFIABLE DISEASES, YEAR 1944

The figures in the following table are the totals of the monthly morbidity reports received from the State health authorities for the year 1944. These reports are preliminary and the figures are therefore more or less incomplete. In most instances they include cases reported in both civilian and military populations. The comparisons made are with similar preliminary reports; but owing to population shifts and the presence of large military populations in certain States, the figures for some States are not comparable with those for prior years, especially for certain diseases. Each State health officer has been requested to include in the monthly report for his State all diseases that are required by law or regulation to be reported in the State. The lists of diseases required to be reported are not the same for each State. Only 12 of the common communicable diseases are notifiable in all the States. In some instances cases are reported, in some States, of diseases that are not required by law or regulation to be reported, and the figures are included although manifestly incomplete. There are also variations among the States in the degree of completeness of reporting of cases of the reportable diseases. As compared with the deaths, incomplete case reports are obvious for such diseases as malaria, pellagra, pneumonia, and tuberculosis, while in many States other diseases, such as puerperal septicemia and Vincent's infection are not reportable.

In spite of these known deficiencies, however, these monthly reports, which are published quarterly and annually in consolidated form, have proved of value in presenting early information regarding the reported incidence of a large group of diseases and in indicating a trend by providing a comparison with similar preliminary figures for prior years. To some extent they also give a picture of the geographic prevalence of certain diseases, as the States are arranged by geographic location.

Leaders are used in the table to indicate that no case of the disease was reported.

Consolidated monthly State morbidity reports for the year 1944

Division and State	Anthrax	Chick- enpox	*Con- juncti- vitis	*Diph- theria	Dysen- tery, bacil- lary	Dysen- tery, unde- fined	En- ceph- alitis, infec- tious	Ger- man mea- sles	Hook- worm disease	Influenza	Malaria	*Meas- les	*Men- ingitis, menin- gococ- cus	Mumps	Ophthal- mia neona- torum	Pellagra	Pneumonia, all forms
NEW ENGLAND																	
Maine.....	1	2,038		22	1		4	264		480	4	6,558	102	254			917
New Hampshire.....	1	307		2	2		2	127		44	2	590	20	347			44
Vermont.....		2,280		5	2			373		507		2,409	11	1,283			33
Massachusetts.....	4	10,404	391	235	241		21	1,947	1			19,848	516	11,018	192		3,041
Rhode Island.....		1,470	26	36	43		11	98		1,118	265	6,878	127	681	1		340
Connecticut.....		6,812	63	37	84		14	961	4	887	60	9,727	290	2,261	1		2,855
MIDDLE ATLANTIC																	
New York.....	5	23,236		330	1,230		68	1,209		136	457	45,455	1,869	4,870	92		19,842
New Jersey.....	4	23,691		139	6	1	23	3,092		478	831	20,368	661	13,508	4		3,939
Pennsylvania.....	13	27,411	1	446	8		12			245	2	26,675	1,146	16,867	38		4,201
EAST NORTH CENTRAL																	
Ohio.....	1	14,425	4	346	17		20	579	1	10,739	158	42,425	957	2,994	409	1	4,014
Indiana.....		3,753	10	398	41		7	213	1	1,035		5,667	316	1,656	3		560
Illinois.....		16,498	6	324	130	35	55	2,715	1	1,431	26	19,451	998	6,268	4	1	8,504
Michigan.....		22,529	329	425	207		9	1,652	1	1,299	244	26,719	851	7,415	30		2,797
Wisconsin.....		31,196		110	28		11	1,296		7,824	90	48,050	291	9,775			1,682

WEST NORTH CENTRAL									
Minnesota.....	513	124	262	5	16	104	63	46	21,926
Iowa.....	203	2	2	48	9	104	7,733	241	5,085
Missouri.....	161	1	17	1	10	104	410	223	3,960
North Dakota.....	683	1	1	41	4	104	1,383	5	3,654
South Dakota.....	77	1	1	4	4	104	49	1,621	21
Nebraska.....	109	9	12	17	17	754	603	2,527	47
Kansas.....	172	31	12	12	17	754	1,901	88	10,960
SOUTH ATLANTIC									
Delaware.....	118	3	20	38	5	421	778	13	375
Maryland.....	4,084	12	28	7,149	5	421	1,310	171	14,318
District of Columbia.....	1,498	2	28	7,149	3	421	32,222	717	3,097
Virginia.....	3,226	3	1	21	3	421	25,356	107	17,103
West Virginia.....	1,434	4	11	1	1	421	1,284	154	9,905
North Carolina.....	3,880	5	11	1	1	421	26,654	308	26,654
South Carolina.....	2,002	1075	14	786	1	421	35,060	9,899	8,157
Georgia.....	1,547	14	786	7	1	421	35,060	387	8,157
Florida.....	1,804	43	201	8	20	329	3,354	496	5,210
EAST SOUTH CENTRAL									
Kentucky.....	1,432	5	64	1	4	382	28,921	80	2,712
Tennessee.....	1,552	12	14	153	13	382	8,154	190	8,866
Alabama.....	1,002	106	11,660	13	13	382	21,132	2,882	8,423
Mississippi.....	6,060	1,235	11,660	380	80	382	67,582	22,538	15,431
WEST SOUTH CENTRAL									
Arkansas.....	928	49	841	1	4	284	18,453	1,452	4,231
Louisiana.....	516	67	209	13	11	134	20,686	1,496	2,849
Oklahoma.....	793	18	174	13	11	134	11,226	1,401	4,298
Texas.....	11,427	896	20,032	380	80	134	108,316	7,498	45,603
MOUNTAIN									
Montana.....	2,639	151	27	1	9	666	6,105	28	3,798
Idaho.....	861	40	5	1	2	431	1,182	4	1,023
Wyoming.....	717	122	5	1	2	431	1,770	11	1,875
Colorado.....	4,764	34	30	24	24	310	6,754	36	6,754
New Mexico.....	525	175	108	91	5	237	4,191	13	1,884
Arizona.....	869	99	7	1,457	11	379	5,675	61	5,366
Utah.....	3,893	1	4	4	2	618	9,334	151	4,471
Nevada.....	548	16	1	1	2	618	332	4	471
PACIFIC									
Washington.....	7,955	4	6	9	30	1,925	623	2	5,626
Oregon.....	2,305	16	491	9	75	1,925	11,750	1,399	3,352
California.....	26,169	120	491	1,484	75	1,925	11,750	1,063	70,549
Total.....	39,317,510	8,220	37,525	9,421	667	38,339	16,104	55,693	623,709
Year 1943.....	30,423	3,429	30,872	7,538	749	321,718	12,799	53,575	612,068
Median, 1939-43.....	29,779	2,993	24,056	1,484	838	155,545	26,065	67,225	546,023
ALASKA									
Alaska.....	223	44	117	29	3	218	758	3	449
Hawaii Territory.....	1,454	76	881	62	63	218	1,149	541	8,972
Panama Canal Zone.....	253	28	62	62	3	218	1,149	1,255	315

For footnotes, see p. 338.

Consolidated monthly State morbidity reports for the year 1944—Continued

Division and State	*Polio- myeli- tis	Rabies in ani- mals	Rabies in man	Rocky Moun- tain spotted fever	*Scar- let fever	Septic sore throat	*Small- pox	Teta- nus	Tra- cho- ma	Trich- no- sis	*Tuber- culosis, all forms	Tuber- culosis, respir- atory	Tula- remia	*Ty- phoid and para- ty- phoid fever	Para- ty- phoid fever	Typhus fever	*Undu- lant fever	Vin- cent's infect- ion	*Whoop- ing cough
NEW ENGLAND																			
Maine.....	21	1			1,599	24		2		1	660	586		31	4	2	37	71	889
New Hampshire.....	68				436	12					248			9	4		1	16	88
Vermont.....	41				400			1			96			13			88	31	1,218
Massachusetts.....	442	1			12,028	191		16	5	31	3,131	2,930	1	158	123	3	47	40	4,059
Rhode Island.....	13	1			602	61		2		2	696	678		18			16	4	672
Connecticut.....	219				2,658	137		4	1	25	1,376	1,320	1	38	9		61		2,091
MIDDLE ATLANTIC																			
New York.....	6,202	300	2	22	16,387	735		34		122	13,501	12,561	3	258	56	15	245		8,215
New Jersey.....	544		1	17	6,155	78		12	1	52	3,491		1	63	11	3	63		3,079
Pennsylvania.....	1,455		4	11	15,517			2	2	5	5,802		6	230		3	87		5,049
EAST NORTH CENTRAL																			
Ohio.....	1,188	400	1	4	15,006	21	13	9	10	62	6,780	6,568	28	196	18	5	94	26	5,535
Indiana.....	334		3	10	4,856	63	38	3	13	1	3,355	3,253	37	320	3	1	81	332	769
Illinois.....	556	366	2	13	11,737	222	13	31	179	87	8,115	7,471	87	111	12		326	367	3,192
Michigan.....	900	84	1		8,971	598	10	25	4	4	6,419			112	38	1	96	144	4,050
Wisconsin.....	281				9,250	58	15		6		2,673		3	22			224		4,344
WEST NORTH CENTRAL																			
Minnesota.....	557	2			5,117	72	1	4	2		2,518		10	30	5		326	26	1,464
Iowa.....	204	64	5	3	4,530	11	33				874	784	1	52			295	7	983
Missouri.....	187	34		3	3,550	29	9	10	596		2,416		19	112	1	2	39	2	918
North Dakota.....	42			1	1,044	10	5				283	260		7			3	77	405
South Dakota.....	8			2	1,933	1	11	1	44		371	16		13			25		367
Nebraska.....	96			1	1,900		6				195			13			367		560
Kansas.....	113	29	2	1	3,539	34	15	12	24	1	704	651	10	61	4	1	175	158	1,665
SOUTH ATLANTIC																			
Delaware.....	93	1		5	315						187	187	3	4	1		1		56
Maryland.....	436	73	1	54	5,543	116		4		1	3,483	3,133	6	71	6		32	35	2,871
District of Columbia.....	194	148	3		3,638						2,104	2,016		14	2		14		174
Virginia.....	761			80	2,978	1,402	1	2	1		3,403	3,403	56	130	5	21	35		2,715
West Virginia.....	222	15		15	3,244	20	5				1,080		161	14			6		1,226
North Carolina.....	859	20	1	59	2,240	47	4				1,805	1,767	10	133			237	12	6,356
South Carolina.....	73	171	1	3	3,866	283	6	12			1,028		15	142	28		178	20	3,521
Georgia.....	99		1	10	996	220	7	16	1	5	2,099	2,094	51	239	62		1,143	157	739
Florida.....	167	8			412	111	1	24		1	1,144	819	1	134	35		496	33	979

EAST SOUTH CENTRAL									
Kentucky.....	755	1	12	2,381	76	10	28	2,929	51
Tennessee.....	130	3	25	2,923	129	8	37	4,497	52
Alabama.....	103	9	9	826	9	37	1	2,745	11
Mississippi.....	126	9	9	545	14	14	77	1,839	67
WEST SOUTH CENTRAL									
Arkansas.....	44	2	2	505	782	29	11	433	70
Louisiana.....	456	3	2	381	253	11	37	1,779	23
Oklahoma.....	53	3	8	966	128	7	145	2,509	8
Texas.....	238	3	3	3,086	856	32	180	10,599	35
MOUNTAIN									
Montana.....	39	5	5	1,399	79	12	4	460	7
Idaho.....	13	5	5	1,571	56	8	1	134	2
Wyoming.....	8	30	30	432	30	1	78	18	21
Colorado.....	64	1	8	2,169	34	10	3	71	4
New Mexico.....	23	34	1	550	15	3	24	1,212	8
Arizona.....	33	1	1	664	17	2	466	1,502	75
Utah.....	25	16	10	3,099	29	1	1	1,079	59
Nevada.....	7	2	2	84	154	1	6	161	8
PACIFIC									
Washington.....	198	1	1	7,010	123	11	5	2,132	45
Oregon.....	234	1	3	3,229	47	3	42	751	55
California.....	498	3	3	12,824	1	20	77	9,537	4
Total.....	19,053	52	448	101,220	7,356	384	406	126,348	733
Year 1943.....	12,429	29	431	142,274	7,787	746	436	119,307	887
Median, 1939-43.....	8,947	31	431	142,274	9,914	1,368	426	103,348	1,482
Alaska.....	3	1	13	15	15	1	18	330	312
Hawaii Territory.....	6	2	66	28	28	5	5	908	884
Panama Canal Zone ⁶	2	2	2	2	2	2	2	11 51	11 51

See notes on p. 338.

Diseases marked with an asterisk () are reportable by law or regulation in all the States, including the District of Columbia. Typhoid fever is reportable in all the States; paratyphoid fever in all except 6 States. Syphilis is reportable in all the States and the District of Columbia but is not included in the table.

1 Includes cases of kerato- and suppurative conjunctivitis and of pink eye.

2 For 6 months only.

3 Includes cases in which the infection was contracted outside the State.

4 For 3 months only.

5 Exclusive of 10 recurrent cases.

6 Exclusive of 139 recurrent cases.

7 4-year (1940-43) average.

8 Lobar pneumonia only.

9 Including the cities of Colon and Panama.

10 In the Canal Zone only.

11 Includes 1 case of tsutsugamushi fever.

12 Includes cases originating outside the State.

The following list includes certain rare conditions, diseases of restricted geographical distribution and those reportable in or reported by only a few States:

Actinomycosis: Massachusetts 1, Connecticut 1, Pennsylvania 1, Illinois 6, Michigan 5, Minnesota 25, Iowa 1, Missouri 1, South Dakota 1, Kansas 2, Maryland 1, Tennessee, 1, Montana 1.

Botulism: New York 4, Illinois 1, Nevada 2, Washington 6, California 8.

Coccidioidomycosis: Kansas 1, New Mexico 1, Arizona 43, California 31.

Dengue: South Carolina 10, Kentucky 2, Alabama 2, Mississippi 2, Arkansas 1, Louisiana 3, Texas 41, Hawaii Territory 283.

Diarrhea and enteritis: Rhode Island 5 (diarrhea only), New Jersey 55 (diarrhea only), Ohio 937, Indiana 3 (diarrhea only), Illinois 5 (diarrhea only), Michigan 55 (diarrhea only), Minnesota 8, Maryland 120 (diarrhea only), South Carolina 10,255 (diarrhea only), Florida 28 (diarrhea only), Wyoming 1 (diarrhea only), Colorado 1, New Mexico 253, Nevada 33 (diarrhea only), Washington 133, California 48 (diarrhea only).

Dog bite: Illinois 11,164, Michigan 7,743, Arkansas 370.

Favus: Michigan 1.

Food poisoning: Maine 5, Ohio 1, Indiana 14, Illinois 45, Louisiana 12, New Mexico 10, Nevada 6, Washington 3, California 651.

Granuloma inguinale: Missouri 44, Florida 207, Tennessee 33, Mississippi 653, Louisiana 100, Arizona 10, Washington 47.

Granuloma, unspecified: Ohio 15.

Impetigo contagiosa: Ohio 1, Indiana 21, Illinois 87, Michigan 1,379, Iowa 9, Missouri 6, North Dakota 32, South Dakota 3, Kansas 97, Maryland 10, Montana 18, Wyoming 13, Colorado 8, Nevada 12, Washington 174, Oregon 351, Alaska 12, Hawaii Territory 135.

Jaundice (including hepatitis): Indiana 13, Illinois 34, Minnesota 2, Kansas 4, Maryland 8, South Carolina 4, Florida 35, Idaho 3, Wyoming 8, Arizona 4, Utah 18, Nevada 1, Washington 47, California 380, Alaska 95, Hawaii Territory 6.

Lead poisoning: Minnesota 7, New Mexico 1.

Leprosy: New York 3, New Jersey 1, Ohio 1, Illinois 1, Maryland 1, Florida 3, Louisiana 9, Texas 5, Colorado 1, Nevada 1, California 9, Hawaii Territory 27, Panama Canal Zone 1.

Lymphocytic choriomeningitis: Illinois 2, Tennessee 3.

Lymphogranuloma venereum: Missouri 51, Florida 248, Tennessee 72, Louisiana 165, Arizona 27, Utah 3, Nevada 4.

Plague (human): California 1 (laboratory infection), Hawaii Territory 5 (all fatal, including 1 pneumonic).

Psittacosis: Pennsylvania 2, Maryland 1, Utah 1, Washington 1, California 1.

Puerperal septicemia: Ohio 1, Georgia 2, Florida 2, Tennessee 4, Mississippi 244, Louisiana 2, New Mexico 6, Nevada 4.

Rat bite fever: Kansas 3.

Relapsing fever: Kansas 1, Texas 19, New Mexico 1, Arizona 2, Nevada 3, California 8, Panama Canal Zone 1.

Rheumatic fever: Rhode Island 9, Indiana 8, Illinois 399, Michigan 251, Iowa 2, Missouri 66, North Dakota 9, Maryland 348, South Carolina 20, Georgia 36, Louisiana 3, Idaho 1, Colorado 20, Arizona 1, Utah 257, Washington 116, California 908.

Ringworm: New Hampshire 1, Pennsylvania 227, Michigan 2,777, Maryland 1, Montana 3, Washington 161.

Scabies: New Hampshire 3, Ohio 2, Indiana 10, Michigan 949, Iowa 1, Missouri 2, North Dakota 103, Kansas 85, Maryland 1, Montana 41, Idaho 4, Wyoming 41, Oregon 637, Alaska 21.

Silicosis: Ohio 3, Indiana 14, Montana 3, Idaho 2, New Mexico 1, Utah 2.

Well's disease: Massachusetts 2, Ohio 1, Michigan 84, Maryland 2, Utah 1, Hawaii Territory 18.

WEEKLY REPORTS FROM CITIES

City reports for week ended February 24, 1945

This table lists the reports from 80 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polio-myelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland.....	0	0	0	0	1	1	4	0	1	0	0	0
New Hampshire:												
Concord.....	0	0	0	0	4	0	0	0	6	0	0	0
Vermont:												
Barre.....	0	0	0	0	2	0	1	0	0	0	0	0
Massachusetts:												
Boston.....	2	0	0	0	27	2	13	0	63	0	1	35
Fall River.....	0	0	0	0	1	0	1	0	10	0	0	1
Springfield.....	0	0	0	0	8	0	1	0	13	0	0	3
Worcester.....	0	0	0	0	2	0	9	0	6	0	0	7
Rhode Island:												
Providence.....	0	0	0	1	1	0	4	0	7	0	1	18
Connecticut:												
Bridgeport.....	0	0	0	0	0	0	1	0	1	0	0	0
Hartford.....	0	0	0	0	44	0	0	0	30	0	0	0
New Haven.....	0	0	0	0	1	1	3	0	5	0	0	17
MIDDLE ATLANTIC												
New York:												
Buffalo.....	0	0	0	1	0	4	7	0	5	0	0	1
New York.....	10	1	5	1	8	16	78	1	251	0	3	93
Rochester.....	0	0	0	0	5	1	4	0	9	0	0	7
Syracuse.....	0	0	0	0	0	0	1	0	5	0	0	32
New Jersey:												
Camden.....	0	0	0	1	1	0	3	0	2	0	0	4
Newark.....	0	0	1	0	4	2	9	0	15	0	0	11
Trenton.....	0	0	0	0	1	0	1	0	9	0	0	0
Pennsylvania:												
Philadelphia.....	0	0	6	4	45	5	30	0	114	0	3	38
Pittsburgh.....	0	0	1	2	2	7	21	0	25	0	0	6
Reading.....	0	0	0	0	4	0	4	0	4	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati.....	0	0	0	0	0	1	14	0	22	0	0	13
Cleveland.....	2	0	1	0	4	4	7	0	75	0	1	43
Columbus.....	0	0	0	0	0	0	4	0	6	0	0	2
Indiana:												
Fort Wayne.....	0	0	0	0	1	0	1	0	8	0	0	2
Indianapolis.....	5	0	1	3	1	12	0	39	0	0	0	3
South Bend.....	1	0	0	0	3	1	0	0	6	0	0	0
Terre Haute.....	0	0	0	0	0	0	3	0	4	0	0	0
Illinois:												
Chicago.....	0	0	0	1	34	15	30	0	120	0	0	32
Springfield.....	0	0	0	0	2	0	4	0	14	0	0	2
Michigan:												
Detroit.....	8	0	2	2	7	9	19	0	94	0	0	10
Flint.....	0	0	0	0	0	0	4	0	5	0	0	3
Grand Rapids.....	0	0	0	0	0	0	0	0	14	0	0	0
Wisconsin:												
Kenosha.....	0	0	0	0	0	0	0	0	2	0	0	5
Milwaukee.....	0	0	0	0	6	0	5	0	75	0	0	3
Racine.....	0	0	0	1	1	0	0	0	1	0	0	7
Superior.....	0	0	0	0	1	0	0	0	3	0	0	0
WEST NORTH CENTRAL												
Minnesota:												
Duluth.....	0	2	0	0	1	0	2	0	3	0	0	0
Minneapolis.....	2	0	0	0	7	0	6	0	29	0	0	8
St. Paul.....	2	0	0	0	1	0	4	0	1	0	0	8
Missouri:												
Kansas City.....	0	0	0	1	3	0	10	0	23	0	0	1
St. Joseph.....	0	0	0	0	0	0	0	0	18	0	0	0
St. Louis.....	1	0	5	2	2	6	21	1	35	0	2	10

City reports for week ended February 24, 1945—Continued

	Diphtheria cases	Encephalitis, Infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Pollomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo.....	0	0		0	0	0	0	0	0	0	0	0
Nebraska:												
Omaha.....	1	0		0	9	0	5	0	26	0	0	0
Kansas:												
Topeka.....	1	0		0	1	0	2	0	11	0	0	7
Wichita.....	0	0		0	0	0	3	0	1	0	0	0
SOUTH ATLANTIC												
Delaware:												
Wilmington.....	0	0		0	0	0	4	0	0	0	0	0
Maryland:												
Baltimore.....	6	0	1	1	6	4	13	0	131	0	0	23
Cumberland.....	0	0		0	0	0	1	0	7	0	0	0
Frederick.....	0	0		0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington.....	1	0	1	0	9	4	13	0	77	0	0	6
Virginia:												
Lynchburg.....	1	0		0	0	0	1	0	2	0	0	5
Richmond.....	0	0	1	1	4	1	3	0	13	0	0	0
Roanoke.....	0	0		0	0	0	2	0	1	0	0	2
West Virginia:												
Charleston.....	0	0		0	0	0	0	0	0	0	0	0
Wheeling.....	0	0		0	52	2	2	0	0	0	0	0
North Carolina:												
Raleigh.....	0	0		0	0	0	2	0	2	0	0	11
Wilmington.....	1	0		0	1	0	4	0	3	0	1	17
Winston-Salem.....	2	0		0	1	0	2	0	6	0	0	2
South Carolina:												
Charleston.....	0	0	22	0	0	0	0	0	2	0	0	1
Georgia:												
Atlanta.....	0	0	7	1	1	0	4	0	9	0	0	0
Brunswick.....	0	0		0	5	0	5	0	1	0	0	5
Savannah.....	1	0	1	0	0	1	2	0	0	0	0	2
Florida:												
Tampa.....	1	0		0	0	0	1	0	5	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis.....	0	0	6	2	58	1	15	0	10	0	0	6
Nashville.....	0	0		0	1	0	3	0	12	0	0	3
Alabama:												
Birmingham.....	1	0	5	1	0	0	3	0	2	0	0	4
Mobile.....	0	0		0	0	0	5	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock.....	0	0		0	2	1	0	0	0	0	0	2
Louisiana:												
New Orleans.....	2	0	2	1	11	0	13	0	9	0	0	1
Shreveport.....	0	0		0	0	0	6	0	0	0	0	0
Texas:												
Dallas.....	3	0		0	21	2	4	0	7	0	0	2
Galveston.....	4	0		0	0	0	2	0	0	0	0	0
Houston.....	1	0		0	1	3	5	0	7	0	0	0
San Antonio.....	3	0	1	1	0	0	7	0	0	0	0	0
MOUNTAIN												
Montana:												
Billings.....	0	0		0	0	0	2	0	2	0	0	0
Great Falls.....	0	0		0	1	0	3	0	3	0	0	0
Helena.....	0	0		0	0	0	0	0	2	0	0	0
Idaho:												
Boise.....	0	0		0	0	0	0	0	1	0	0	0
Colorado:												
Denver.....	7	0	1	0	8	1	9	0	24	0	1	16
Pueblo.....	0	0		0	1	0	1	0	6	0	0	0
Utah:												
Salt Lake City.....	0	0		0	17	0	2	0	10	0	0	6

City reports for week ended February 24, 1945—Continued

	Diphtheria cases	Enecephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Pollomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle.....	0	0	-----	1	22	3	6	0	14	0	0	0
Spokane.....	0	0	1	0	1	0	1	0	3	0	0	0
Tacoma.....	0	0	-----	0	6	0	1	0	5	0	0	3
California:												
Los Angeles.....	2	0	8	1	28	6	5	1	57	0	0	18
Sacramento.....	0	0	-----	0	0	0	1	0	21	0	0	8
San Francisco.....	3	0	-----	0	101	2	9	0	69	0	0	14
Total.....	74	3	78	27	605	108	513	3	1,739	0	13	589
Corresponding week, 1944.....	65	-----	216	72	7,913	-----	503	-----	2,090	2	6	359
Average, 1930-44.....	71	-----	603	149	14,583	-----	1,525	-----	1,603	2	11	867

¹ 3-year average, 1942-44.

² 5-year median, 1940-44.

Dysentery, amebic.—Cases: New York, 1; Cleveland, 1; Chicago, 1; St. Louis, 1; Houston, 1.

Dysentery, bacillary.—Cases: New York, 1; Charleston, S. C., 6; Los Angeles, 1; San Francisco, 3.

Dysentery, unspecified.—Cases: San Antonio, 1.

Tularemia.—Cases: Buffalo, 1; Springfield, Ill., 1; Atlanta, 1.

Typhus fever, endemic.—Cases: Atlanta, 1; Savannah, 3; Tampa, 1; Nashville, 2; Birmingham, 1; Galveston, 1; Houston, 1; San Antonio, 6.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,379,500)

	Diphtheria case rates	Etiophalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Pollomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England.....	5.2	0.0	0.0	2.6	238	10.5	96.7	0.0	371	0.0	5.2	212
Middle Atlantic.....	4.6	0.5	6.0	4.2	32	16.2	73.1	0.5	203	0.0	2.8	89
East North Central.....	9.7	0.0	1.8	2.4	38	19.5	62.6	0.0	297	0.0	0.6	76
West North Central.....	13.9	4.0	9.9	6.0	48	11.9	105.4	2.0	292	0.0	4.0	68
South Atlantic.....	21.2	0.0	53.9	4.9	129	19.6	96.4	0.0	423	0.0	1.6	121
East South Central.....	5.9	0.0	64.9	17.7	348	5.9	153.5	0.0	142	0.0	0.0	77
West South Central.....	37.3	0.0	8.6	5.7	100	17.2	106.2	0.0	66	0.0	0.0	14
Mountain.....	56.9	0.0	8.1	0.0	220	8.1	138.2	0.0	390	0.0	8.1	179
Pacific.....	7.9	0.0	14.2	3.2	250	17.4	36.4	1.6	267	0.0	0.0	68
Total.....	11.3	0.5	11.9	4.1	92	16.4	78.0	0.5	264	0.0	2.0	90

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended February 10, 1945.—During the week ended February 10, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox.....		6	1	240	283	26	30	99	134	819
Diphtheria.....	1	4	2	37	3	9				56
Encephalitis, infectious.....						1				1
German measles.....		12		9	14		5	8	12	60
Influenza.....		8			45				15	68
Measles.....		1	4	148	69	9	11	21	300	563
Meningitis, meningococcus.....		2			2		1		1	6
Mumps.....		1		424	131	31	20	118	18	743
Scarlet fever.....		7	2	66	101	13	5	47	30	271
Smallpox.....								1		1
Tuberculosis (all forms).....		1	9	120	57	16	31	8	55	297
Typhoid and paratyphoid fever.....				6	1	3				10
Undulant fever.....					1		2			3
Venereal diseases:										
Gonorrhea.....	1	25	19	54	175	32	24	27	30	387
Syphilis.....	1	4	8	78	99	9	10	13	28	250
Whooping cough.....		11		141	68	12	14	13	44	303

FRANCE

Diphtheria.—During the winter months of 1941, 1942, and 1943, the number of cases of diphtheria rose from 2,062 in November 1941 to 4,675 in December 1942, and to 5,844 in December 1943. The rate of sickness from diphtheria trebled from the year 1938 to 1943.

Tuberculosis—Cases.—The number of new cases of tuberculosis reported in the region of Paris, with the case rates per 100,000 population for the years 1937 to 1942, are as follows:

Year	Cases	Rate
1937.....	8,471	300
1938.....	8,608	305
1939.....	8,359	315
1940.....	7,569	327
1941.....	10,569	455
1942.....	10,059	443

The number of new cases of tuberculosis reported in 46 Departments in the German-occupied zone discloses an increase in 1942 of 16.4 percent over the number of new cases in 1938.

Tuberculosis—Deaths.—The following table shows the deaths per 100,000 for tuberculosis in all of France. No figures are available for the years 1939 to 1942:

Year	Rate
1933.....	131
1934.....	128
1935.....	123
1936.....	120
1938.....	137
1943.....	141

Typhoid fever.—The annual rate of sickness from typhoid fever rose from 9.8 in 1938 to 36.6 in 1942.

General mortality.—The following figures show the general mortality rate per 10,000 population in France exclusive of military deaths but including deaths resulting from bombardment and from the general exodus of 1940. The figures for 1943 are incomplete but it is expected the complete figures for 1943 will show a mortality rate as high as that for 1942:

Year	Deaths	Rate
1938.....	621, 417	155
1939.....	639, 435	155
1940.....	734, 550	182
1941.....	660, 279	174
1942.....	638, 298	168
1943.....	609, 596	164

Infant mortality.—The death rates per 1,000 births for children under 1 year of age for all of France are as follows:

Year	Rate
1939.....	63
1940.....	91
1941.....	73
1942.....	70
1943.....	75

JAMAICA

Notifiable diseases—4 weeks ended February 10, 1945.—During the 4 weeks ended February 10, 1945, cases of certain notifiable diseases were reported in Kingston, Jamaica, and in the island outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis.....	2	2	Poliomyelitis.....		1
Chickenpox.....	15	18	Puerperal fever.....		3
Diphtheria.....	7	9	Scarlet fever.....		1
Dysentery, (unspecified).....	7	38	Tuberculosis (pulmonary).....	31	73
Erysipelas.....	2	1	Typhoid fever.....	11	92
Leprosy.....	1	1	Typhus fever.....	3	

**REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND
YELLOW FEVER RECEIVED DURING THE CURRENT WEEK**

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

Plague

French West Africa.—For the period February 1–10, 1945, 2 cases of plague were reported in French West Africa.

Madagascar.—For the period January 1–10, 1945, 6 cases of plague were reported in Madagascar.

Smallpox

French Guinea.—For the period January 11–20, 1945, 108 cases of smallpox with 4 deaths were reported in French Guinea.

India.—Smallpox has been reported in India as follows: Calcutta, week ended February 3, 1945, 379 cases, 284 deaths. For the week ended February 3, 1945, 2,060 cases of smallpox with 385 deaths were reported in Madras Presidency, India.

Mexico.—For the month of December 1944, 135 cases of smallpox were reported in Mexico, including 68 cases in Vera Cruz State, 24 cases in Hidalgo State, and 21 cases in Guanajuato State.

Turkey.—For the week ended February 24, 1945, 18 cases of smallpox were reported in Turkey.

Typhus Fever

Algeria.—For the period February 1–10, 1945, 74 cases of typhus fever were reported in Algeria.

Chile.—For the period December 3–30, 1944, 44 cases of typhus fever with 6 deaths were reported in Chile. Provinces reporting the highest incidence of the disease are: Concepcion, 11 cases, 1 death; Santiago, 8 cases, 4 deaths; Antofagasta, 7 cases; Valparaiso, 6 cases.

Ecuador.—For the month of January 1945, 44 cases of typhus fever with 3 deaths were reported in Ecuador, including 29 cases and 1 death in Quito.

Guatemala.—For the month of January 1945, 183 cases of typhus fever with 16 deaths were reported in Guatemala. Departments reporting the highest incidence of the disease are as follows: Alta Verapaz, 67 cases; Quezaltenango, 37 cases, 10 deaths; San Marcos, 26 cases, 2 deaths; Chimaltenango, 18 cases; Sacatepequez, 17 cases, 4 deaths.

Mexico.—For the month of December 1944, 246 cases of typhus fever were reported in Mexico. States reporting the highest incidence of the disease are as follows: Mexico, 86 cases; Puebla, 39; Mexico Federal District, 32; Hidalgo, 13; Queretaro, 10 cases.

Turkey.—For the week ended February 24, 1945, 79 cases of typhus fever were reported in Turkey.

FEDERAL SECURITY AGENCY
UNITED STATES PUBLIC HEALTH SERVICE

THOMAS PARRAN, *Surgeon General*

DIVISION OF PUBLIC HEALTH METHODS

G. ST. J. PERROTT, *Chief of Division*

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